

Kinken Powder Diffractometer for High Efficiency and High Resolution Measurements

HERMES Powerful diffractometer for structural analysis of various materials



fact sheet

Monochrometer	Ge(311) vert. focused Height: 20 cm, mosaic: 10' $2\theta_M = 116^\circ$ ($\lambda = 2.202 \text{ \AA}$)
Collimations	1st: 12' 2nd: open 3rd: 18' ~ 24'
Angle range	$2 < 2\theta_S < 160^\circ$ ($0.1 < Q < 5.6 \text{ \AA}^{-1}$)
Distances	Monochro-sample: 250 cm Sample-detector: 135 cm
Detector	^3He -type detector (150 tubes)
Temperature range	K4K-GM (4 K – RT), high-T refrigerator (10 – 700 K)

What you can do with HERMES

- Determination of magnetic and crystal structure
- Structural analysis of light elements in compounds containing heavy elements
- Determining the ion conduction path
- Wide range S (Q) measurement of liquid, amorphous

Rapid and flexible measurements

- Mail-in Service
- Support of structural analysis
- Support for young and beginners
- Collaboration with project research

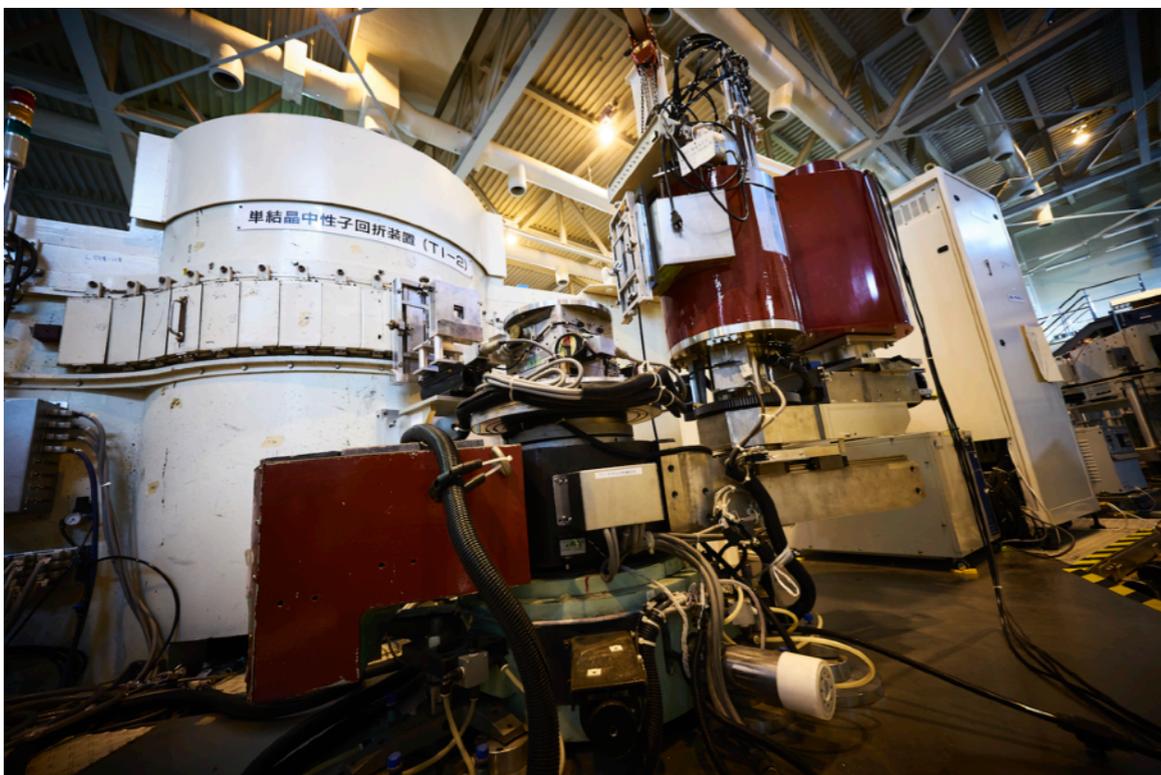


TOHOKU
UNIVERSITY

Advanced KINKEN Triple-Axis Neutron Spectrometer

AKANE

Spectrometer for trial use,
educational use and
sample environment development



What you can do with AKANE

- Measurement under special environment
- Testing for device development
- Checking crystalline
- Temperature dependence of order parameter
(determination of critical exponent)
- Observation of elementary excitations

fact sheet

Monochrometer	Ge(311)/(511) vert. focused Height: 20 cm, mosaic: 10'~15'
Analyzer	PG002 ($\eta_A = 30' \sim 40'$)
Collimations	1st: guide(20') 2nd, 3rd, 4th: 15', 30', 60', blank
Angle range	Ge(311): $2\theta_M = (\text{fixed}) 72.6^\circ$ (2.02 \AA), $Q_{\text{max}} \sim 5.1 \text{ \AA}^{-1}$, $-5 \leq 2\theta_S \leq +110 (\pm 0.01)$, $-90 \leq 2\theta_A \leq +90 (\pm 0.01)$,
Beam size	20mm-w x 50mm-h
Detector	^3He -type tube detector $\phi 25\text{mm}$
Temperature range	K4K-GM (4 K – RT), high-T refrigerator (10 – 700 K)
Software	FILMAN-J, TEMCON

Pursuit of the possibility of neutron usage

- Collaboration with Kinken Joint Usage program
- Support of long-term project

Tohoku-University Polarization Analysis Neutron Spectrometer

TOPAN

Spectrometer for research of magnetism using polarized neutrons



What you can do with TOPAN

- Determination of magnetic and crystal structure
- Structural analysis of light elements in compounds containing heavy elements
- Determining the ion conduction path
- Wide range S (Q) measurement of liquid, amorphous

fact sheet

Monochrometer	PG(002), mosaic: 40' - 60' Heusler
Analyzer	PG(002) ($\eta_A = 30' \sim 40'$) double-focused
Collimations	1st: 15', 30' 2nd, 3rd: 10, 15', 30', 60', 100' 4th: 15', 30', 60', 100'
Angle range	$15 \leq 2\theta_S \leq 78^\circ$, $-5 \leq \theta_S \leq 120^\circ$, $0 \leq 2\theta_A \leq 80^\circ$
Beam size	40mm-w x 80mm-h (max)
Detector	^3He -type tube detector $\phi 2'' \times 100\text{mm}$
Temperature range	GM refrigerator & orange cryostats (1.5 - 600 K)
Software	FILMAN-J, TEMCON

Advanced research on magnetism

- Development of polarization device
- Support of long-term project